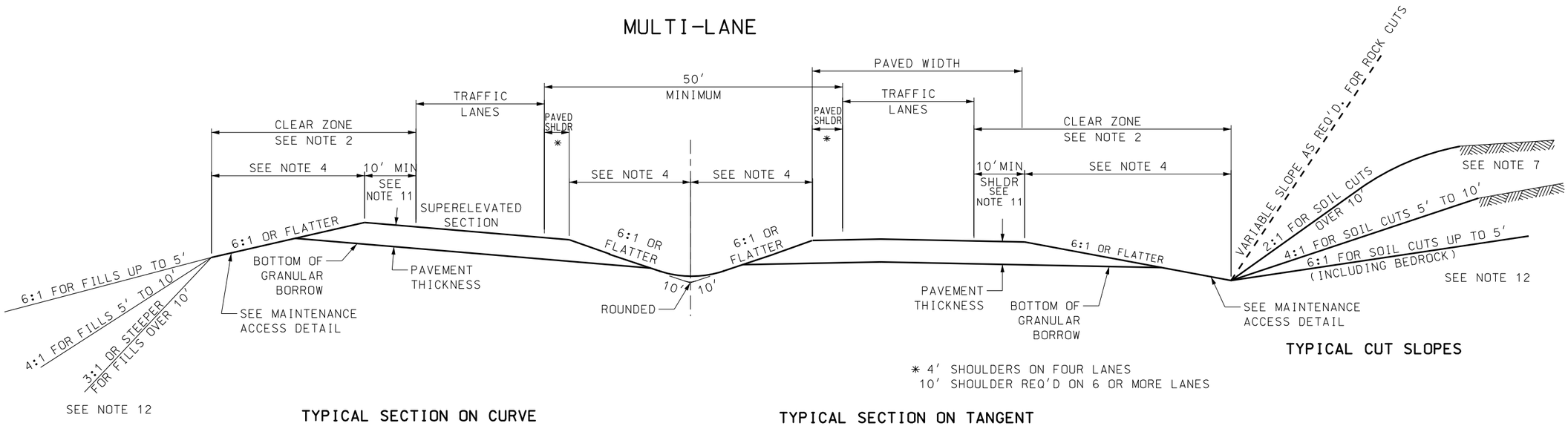
MULTI-LANE



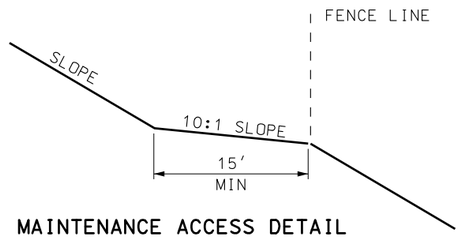
TYPICAL SECTION ON CURVE

TYPICAL SECTION ON TANGENT

TYPICAL CUT SLOPES

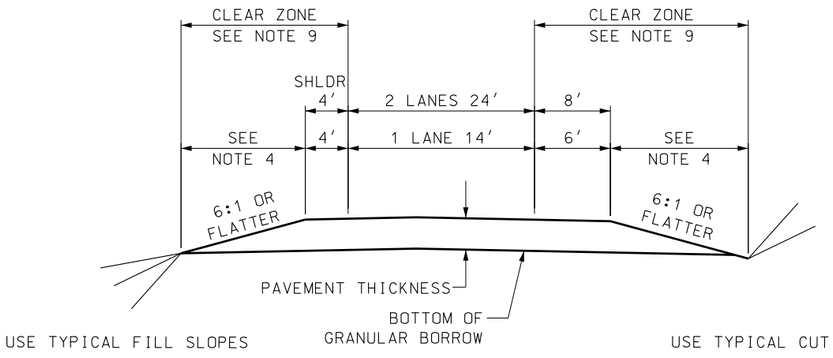
* 4′ SHOULDERS ON FOUR LANES
10′ SHOULDER REQ'D ON 6 OR MORE LANES

TYPICAL FILL SLOPES



MAINTENANCE ACCESS DETAIL

SEE NOTE 13



TYPICAL RAMP

NOTES:

1. USE THE CURRENT EDITION OF AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS FOR DESIGN OF ROADWAY ELEMENTS NOT SHOWN ON THIS STANDARD DRAWING.
2. USE THE CURRENT EDITION OF AASHTO ROADSIDE DESIGN GUIDE FOR CLEAR ZONE REQUIREMENTS. CLEAR ZONE MAY EXTEND INTO CUT OR FILL SLOPES.
3. STANDARDS SHOWN ARE RECOMMENDED VALUES. EXCEED STANDARDS IF CONDITIONS PERMIT.
4. IN FILL CONDITIONS MAINTAIN A CONSTANT SLOPE FROM THE EDGE OF THE PAVEMENT TO THE OUTER EDGE OF THE CLEAR ZONE.
   IN CUT CONDITIONS MAINTAIN A CONSTANT SLOPE FROM THE EDGE OF THE PAVEMENT TO THE BOTTOM OF THE GRANULAR BORROW LAYER OR PROVIDE OTHER MEASURES TO DRAIN ALL PAVEMENT THICKNESS LAYERS. MAINTAIN A MINIMUM OF ONE FOOT VERTICAL DISTANCE FROM THE BOTTOM OF THE GRANULAR BORROW LAYER TO THE BOTTOM OF THE CUT DITCH.
   THERE MAY BE CUT FORESLOPES AND BACKSLOPES IN THE CLEAR ZONE.
5. TRANSITION FROM FLAT TO STEEPER CUT AND FILL SLOPES IN SUFFICIENT DISTANCE TO PROVIDE A NATURAL PLEASING APPEARANCE.
6. PAVEMENT THICKNESS CONSISTS OF HARD SURFACING, UTBC AND GRANULAR BORROW (IF USED).
7. INSTALL SURFACE DITCH (OPTIONAL) WHEN SHEET FLOW DRAINAGE IS TOWARDS CUT SLOPE. DRAIN SURFACE DITCH TO NATURAL DRAINAGE OR ROADSIDE DITCH. PROVIDE OTHER MEASURES TO PREVENT ERODING CUT SLOPES IF SURFACE DITCH IS OMITTED. SEE STD DWG DD 2 FOR DETAILS.
8. SEE STD DWG DD 2 FOR TYPICAL DITCH FLARING DETAIL AND BENCHED SLOPE DETAIL.
9. DESIGN SPEED CHANGES THROUGHOUT LENGTH OF RAMP. USE APPLICABLE CLEAR ZONE.
10. USE A 12′ MINIMUM OUTSIDE SHOULDER WHEN HEAVY TRUCK TRAFFIC EXCEEDS 250 DDHV.
11. RANGE OF SUPERELEVATION IS THE PAVED WIDTH.
12. THE SLOPES SHOWN FOR CUT AND FILL HEIGHTS ARE SUGGESTED VALUES. SLOPES MAY DEVIATE FROM THESE SUGGESTED VALUES TO MEET PROJECT SPECIFIC REQUIREMENTS.
13. PROVIDE MAINTENANCE ACCESS OF 15′ MINIMUM WIDTH ON A 10:1 OR FLATTER SLOPE FROM TOE OF SLOPE TO FENCE LINE WHERE POSSIBLE.
14. USE 2% CROSS SLOPES EXCEPT IN AREAS OF TANGENT RUNOUT OR SUPERELEVATION RUNOFF.
15. PLACE ADVERSE SLOPE BREAKS AT SHOULDER OR LANE LINES.
16. USE 6% MAXIMUM ALGERBRAIC DIFFERENCIAL FOR SLOPE BREAKS BETWEEN SHOULDER AND LANES LINES.
17. USE 4% MAXIMUM ALGERBRAIC DIFFERENCIAL FOR SLOPE BREAKS BETWEEN LANE LINES.

REVISIONS

NO.	DATE	APPR.	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JAN.01.2008 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — JAN.01.2008 DATE
DEPUTY DIRECTOR

GEOMETRIC DESIGN FOR FREEWAYS (ROADWAY)

STANDARD DRAWING TITLE

STD DWG
DD 4